

# **ITEA LVC Special Session on VV&A**



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**MDA M&S Verification, Validation, and**  
**Accreditation Program**

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## VV&A Special Session Purpose

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- **Leverage existing Government and Industry VV&A knowledge to improve MDA VV&A for T&E M&S**
- **Topics for Today's Session:**
  - **(1) The Referent; building the body of knowledge about the system under study to increase confidence in the validity of the M&S**
  - **(2) Acceptability Criteria; formulating the comparison points and M&S accuracy requirements**
  - **(3) Documentation; rolling up the right amount of historical and newly formulated information**
- **Additional discussion topic, time permitting: Validation Process Maturity Model (VPMM)**



## MDA Referent Challenges

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- Testing of the BMDS is costly and highly constrained
  - Catch 22: not enough test data drives need for M&S
  - Not enough test data inhibits extensive validation
- How to leverage Ground Testing to the fullest extent to provide referent data
  - Ground tests are valuable analysis venues making it difficult to align configurations for M&S validation
  - Ground Tests are also expensive, requiring HWIL, planners, operators, etc.





## Acceptability Criteria Issues

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- Building appropriate acceptability criteria requires extensive knowledge about the system
  - Another Catch 22: lack of confidence in system M&S makes sensitivity analysis unreliable



## Documentation Issues

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- Documenting is time consuming, not in development critical path
  - Tends to be the first item cut with budget cuts
- Too much documentation, not focused on critical information, inhibits the amount of knowledge that can be conveyed
- Inconsistent document formats limits the ability to easily archive and retrieve historical knowledge





# Establish MDA Validation Evaluation Framework Like the Validation Process Maturity Model (VPMM)

*Derived from  
Carnegie Mellon  
University Software  
Engineering  
Institute's (SEI's)  
Software & System  
Acquisition Capability  
Maturity Model*

